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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,595	02/09/2004	Koji Akutsu	09788/0200538-US0	3483
7278	7590	06/10/2005	EXAMINER	
DARBY & DARBY P.C. P. O. BOX 5257 NEW YORK, NY 10150-5257			HO, ALLEN C	
			ART UNIT	PAPER NUMBER
			2882	
DATE MAILED: 06/10/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,595

Applicant(s)

AKUTSU ET AL.

Examiner

Allen C. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 9; 17B, 17C (holding blocks, page 9, line 12); 18A (carriage, page 10, line 9); 7B (hand, page 10, line 26).
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 7a (Fig. 1A).
3. Fig. 1A is objected to because reference number 18b is not pointed at the axis (page 9, line 34).
4. Fig. 1B is objected to because "IMAGE SENSING TRANSPORT CONTROL UNIT" should be replaced by --IMAGING SYSTEM TRANSPORT CONTROL UNIT-- as stated in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:
- (1) Page 8, line 1, "3" should be replaced by --10--.
 - (2) Page 9, line 28, "3" should be replaced by --7--.
 - (3) Page 10, line 3, "3" should be replaced by --7--.
 - (4) Page 11, line 25, --transport-- should be inserted after "system".
- Appropriate correction is required.

Claim Objections

6. Claims 1-19 are objected to because of the following informalities:
- (1) Claims 1-19 recite a shape data registering means for registering external shape data of three dimensional models corresponding to three dimensional shapes of objects. It is unclear what these objects are as the claims fail to define them.
 - (2) Claim 1 recites a shape data registering means of each x-ray imaging system. Is there a shape data registering means for each x-ray imaging system?
 - (3) Claims 1, 17, and 19, line 13, "external shape data of a three dimensional model" should be replaced by --the external shape data of the three dimensional models",

since the shape data and the three dimensional models have already been set forth in the shape data registering means.

(4) Claim 19 recites the limitation "the common coordinate system" in line 19. There is insufficient antecedent basis for this limitation in the claim.

(5) Claim 19, line 24, "systems" should be replaced by --system--.

(6) The last paragraph in claim 19 should be deleted.

Appropriate correction is required.

Allowable Subject Matter

7. The following is a statement of reasons for the indication of allowable subject matter:

Although the prior art discloses a radiographic x-ray device comprising a plurality of x-ray imaging systems and an x-ray imaging system transport mechanism, it fails to teach or fairly suggest a shape data registering means for registering external shape data of three dimensional models corresponding to three dimensional shapes of the x-ray imaging systems, a positional relation detecting means for obtaining in real time information regarding positional relations of the x-ray imaging systems based on current positions of the x-ray imaging systems and the external shape data of the three dimensional models, and an imaging system transport control means that controls the x-ray imaging system transport mechanism in accordance with the information regarding the positional relations of the x-ray imaging systems detected by the positional relation detecting means.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Brisson *et al.* (U. S. Patent No. 6,757,582 B2) disclosed a system to control a shaping tool.
- (2) Lithicum *et al.* (U. S. Patent No. 6,714,213 B1) disclosed a system for providing interactive haptic collision detection.
- (3) Lizuka (U. S. Patent No. 6,435,713 B1) disclosed a plurality of x-ray imaging systems.
- (4) Koertge (U. S. Patent No. 5,878,112) disclosed a medical system having a control device for preventing component collisions.
- (5) Ploem (U. S. Patent No. 5,549,439) disclosed a collision-free control system for a multi-axially controllable manipulator.
- (6) Hinton *et al.* (U. S. Patent No. 5,485,502) disclosed a radiographic gantry with software collision avoidance.

9. This application is in condition for allowance except for the formal matters set forth in this office action.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen C. Ho
Primary Examiner
Art Unit 2882

07 June 2005